

## REMARKS

This amendment is in response to the Office Action dated September 22, 2008 in which claims 1-11 were initially rejected. Reconsideration and allowance of all pending claims in view of the above-amendments and the following remarks are respectfully requested.

### I. CLAIM REJECTION UNDER §112

The Office Action indicated that claim 4 lacked antecedent basis for “said coupling”. Accordingly, claim 4 is amended to replace “said coupling” with “a coupling”.

### II. CLAIM REJECTIONS UNDER §103(a)

Claims 1 and 3-10 are rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Bethea et al., U.S. Patent No. 6,564,038, in view of Reinhardt, U.S. Patent No. 6,564,038.

Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Bethea et al., U.S. Patent No. 6,564,038, in view of Reinhardt, U.S. Patent No. 6,754,476, and further in view of Korisch et al., U.S. Patent No. 6,957,051.

#### A. **Summary of BETHEA**

BETHEA discloses a method and apparatus aimed to shield any components or devices within a mobile phone, or any radio communication device, against electromagnetic interferences and radio frequency (RF) interferences, induced by, for example, the antenna of the radio communication device. Indeed stray signals can be generated by a high frequency electronic component when microwave and high frequency signals are associated with it.

BETHEA describe that the most common approach for suppressing electromagnetic interference (EMI) is to shield emitting and vulnerable components in “metal cans”, which reduces the effect of these stray signals in close circuits. However a skin effect on the shielding (“metal cans”) is induced by the use of high frequency signals. It is due to the fact that energy generated by stray signals is inclined to stay on the surface of the shielding and does not go down to common ground within the shielding in order to vanish. Moreover the shielding technique can

also induce another emission of stray signals. (Column 1, lines 14-65).

Accordingly, BETHEA disclose an apparatus that contains a detecting antenna, which is able to detect RF, or HF stray signals generated within radio communication devices. This apparatus also contains an internal processing module (“signal neutralizing shield”), which generates opposing neutralizing signals in order to eliminate the stray signals. This module is put on the shielding (“metal cans”) within the mobile phone. The neutralizing signal is dynamically defined in amplitude and phase (phase shifter/ null feedback).

#### **B. Summary REINHARDT**

REINHART discloses a mobile radio communication apparatus, which is used as a remote especially for a motor vehicle. More precisely, the technique described in this document is mainly aimed to curb the power output of a power amplification device in order to supply a transmission antenna with a constant power whatever the working temperature is. In this document, it is stated that this technique uses a sensor, as for example an antenna, put in the neighborhood of the transmission antenna. This sensor implements the following mechanism: it measures the power generated by the transmission antenna and then compares this measurement with a standard power value.

#### **C. Relevance of combining BETHEA and REINHARDT for Claim 1**

##### **1. Summary of Examiner's Position**

According to the Examiner, the document BETHEA discloses (by using the terms of Applicant's claim 1): “a radiofrequency and/or microwave power amplification device (205), in particular for a radio communication terminal, having means for shielding (200) the device; and means for controlling (300) power supplied at the output of the device, including a power control loop having detection means (110) and power amplification means (112), wherein the control means also include at least one sensor (110;210) for detecting energy radiated in the device”.

However, according to the Examiner, Applicant's invention is novel in view of BETHEA. Indeed, BETHEA does not disclose the reference means and the comparison means in the control

power loop according to Applicant's claim 1.

However, according to the Examiner, claim 1 is obvious and therefore not patentable when BETHEA and REINHART are combined, since REINHART discloses the use of reference means (Rex) and comparison means (OP1) (figure 6; column 5, line 40 to column 6, line 45).

Hence according to the Examiner, a person, having ordinary skill, reading BETHEA and trying to curb efficiently the power output of the device by using a measure of the radiated energy in order to reduce fluctuations of the power transmission, would be inclined to combine the solution described in BETHEA with the reference and comparison means disclosed in REINHART.

## 2. Applicant Respectfully Traverses the Examiner's Position

Applicant disagrees with the Examiner's reasoning on several points:

First, the Examiner assumes that BETHEA is the document regarded as state of art because it is the closest to Applicant's claims. Indeed, it discloses a radio communication terminal (205) comprising means of shielding (200) and means of controlling (300) including a sensor (110) of radiated energy within the terminal.

However, BETHEA does not tackle the technical issue of Applicant's claims, which is how to curb the power output of an amplification device as a function of the radiated energy within the device.

Even if the techniques described in the document BETHEA and our invention use sensors of signals radiated from mobile phones, the aim of these sensors is completely different: in the case of the document BETHEA, the sensor is not used to curb the power output of an RF power amplification device and it is not envisioned. So the document BETHEA does not disclose the solution recited in Applicants claim 1, for example a sensor positioned within a shielding area defined by the shield.

In order to reach Applicant's invention, a person having ordinary skill which has knowledge of BETHEA would have to solve the following technical issue: how to curb the power output by the use of radiated energy within the shielding disclosed in BETHEA. In Applicant's claim 1, the sensor detects "energy radiated in said device." Claim 1 is also amended

to specify that the sensor is positioned within the shielding area defined by the means for shielding.

Second, even if a person having ordinary skill would have known of the power control disclosed in REINHART (as the field of the disclosure is close to the field of Applicant's invention), the person would not have reached Applicant's invention due to the fact that in REINHART, the control of the power output is done by the energy radiated from a transmission antenna connected to the output of an RF amplification device and not by the energy radiated from the RF amplification device itself as in the present application.

In Applicant's opinion, a person having ordinary skills would have been urged to use in addition to the control mechanism described in the document REINHART, a radiating element at the output of the amplification device. In this way, the person skilled in the art would not therefore have led to a configuration in which the control of the power output is done by the energy radiated from the RF amplification device itself.

Hence it was not obvious for a person having ordinary skill to think of detecting and harvesting radiated energy from the amplification device itself in order to control it.

In another terms, Applicant's invention as recited in claims 1 and 11 solves another technical issue, which is how to measure the energy lost by a power amplification device and not how to measure the energy generated by an antenna powered by an amplification device.

Thus, claims 1 and 11 are new and non-obvious in view of the teachings of BETHEA and REINHART.

Third, one or more embodiments of Applicant's disclosure has several advantages compared to the techniques described in REINHARDT. In particular, it introduces a better detection and a better management of the radiated energy within a radio communication terminal. Contrary to the solution described in REINHARDT, the present disclosure uses shielding in order to set up a coupling between the amplification device and the radiated energy sensor, and do not use a transmission antenna as it is proposed in REINHARDT.

In addition, in the solution disclosed in REINHARDT, part of the radiated energy from the transmission antenna was not measured by the sensor due to the fact that it is broadcasted in

free space. Examples of the present disclosure avoid this lost of efficiency.

**D. KORISCH**

KORISCH was cited by the Examiner as allegedly disclosing a shield which reflects radiated energy in the device toward the sensor. But KORISCH merely show sensors 38 positioned near shields 36, not within the shields. Also, KORISCH merely state that the sensors measure electromagnetic field strength "in the environment" of the shields.

Thus, claims 1 and 11, and the respective dependent claims 2-10 are also new and non-obvious in view of KORISCH.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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